HRM Programming and Testing
20Sept05 pak

How to re-program an early-version HRM EEPROM (or recover from a corrupted EEPROM):

1. Install a v1.04 (or later) EEPROM into the HRM
2. Reset the HRM and select "C" when the boot message appears. This clears the entire battery-backed SRAM to all zeros.
3. Reset the HRM again. Select "P" from the boot message.
4. With power still applied, remove the EEPROM from the socket or kludge board. Either place a shunt across JU5 or use a serial cable with a short between pins 6 and 7.
5. Download the new software version from a PC or laptop. When the download is complete, the HRM asks if you really want to proceed. Enter "Y".
6. The HRM will print the current programming address to the terminal. When programming completes, the HRM continues to boot.
7. Reset the HRM and select "B" to continue booting or wait approximately 10 seconds for the HRM to continue booting on its own.

How to re-program a current version HRM EEPROM (v1.04 or later):
1. Reset the HRM and select "C" when the boot message appears. This clears the entire battery-backed SRAM to all zeros.
2. Reset the HRM again. Select "P" from the boot message.
3. Download the new software version from a PC or laptop. When the download is complete, the HRM asks if you really want to proceed. Enter "Y".
4. The HRM will print the current programming address to the terminal. When programming completes, the HRM continues to boot.
5. Reset the HRM and select "B" to continue booting or wait approximately 10 seconds for the HRM to continue booting on its own.

HRM Unit Test Procedure
Important The UUT must have HRM V1.04 or later for tests to work!

Materials needed
1. HRM remote unit
2. HRM PMC
3. PC or laptop with terminal emulation software
4. VME crate with MVME2600 or MVME2300
5. HSSDC-HSSDC cable
6. Oscilloscope
7. TCLK test generator with Windows application
8. Lemo-Lemo cable
9. Serial port cable (HRM DB-9M – PC DB9-F)
10. MADC jumper
11. Set of Digital IO test jumpers

      a. LED
      b. Port loopback

PMC Test and Initial HRM Test

1. Download "pmc2hrm.txt" to the VME processor using the "LO 0" command
2. Type "GO 80000"
3. Follow the directions given by the test program

TCLK Test

1. Download "C177test.txt" to the VME processor using the "LO 0" command
2. Type "GO 80000"
3. Set up the TCLK test generator to the settings displayed by the test program.
4. Connect the output of the test box to the TCLK input on the rear of the HRM
5. Follow the directions given by the test program.

Digital IO Test

1. Download "digiotst.txt" to the VME processor using the "LO 0" command
2. Type "GO 80000"
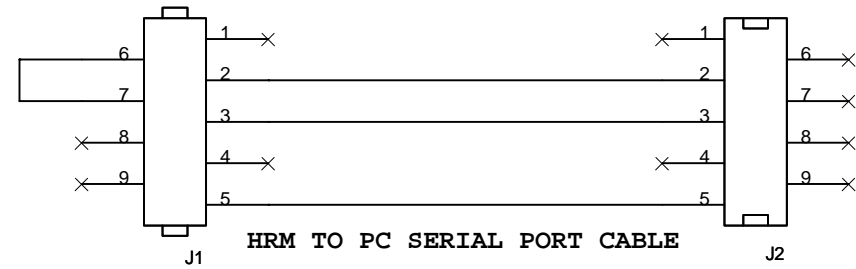3. Follow the directions given by the test program

MADC Test

1. Download "madctest.txt" to the VME processor using the "LO 0" command
2. Type "GO 80000"
3. Follow the directions given by the test program

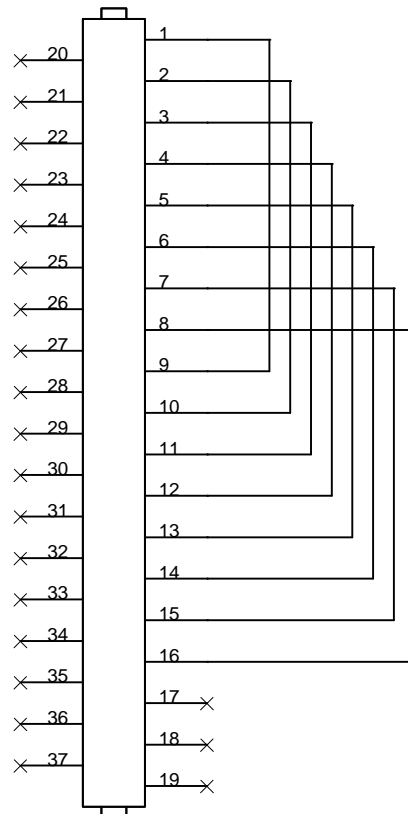NOTE: JUMPER FROM 6 TO 7 ENABLES
PROGRAMMING OF HRM EEPROM
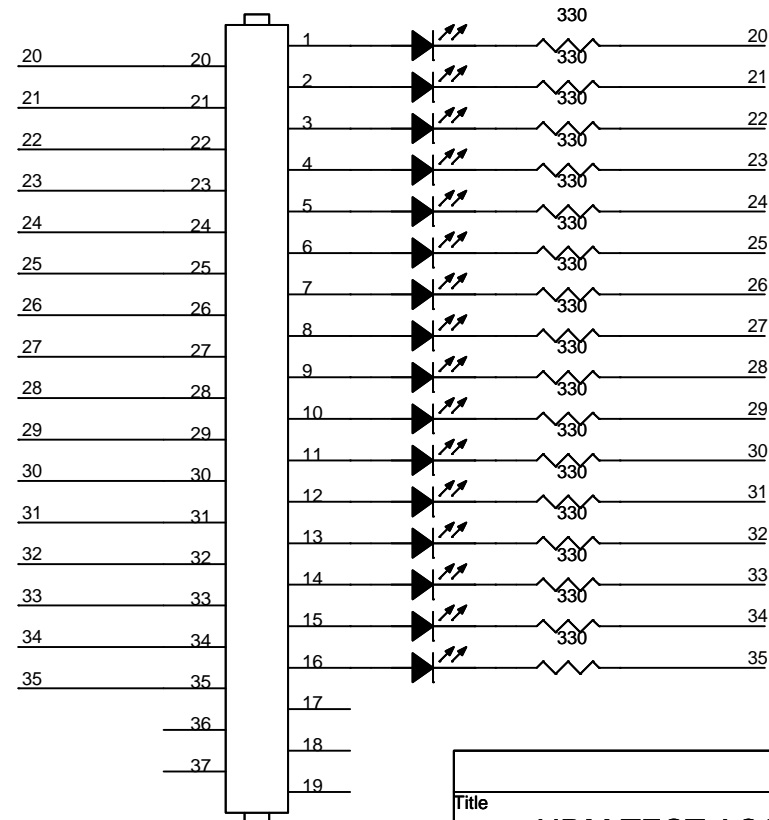
DB9M (TO HRM)   DB9F (TO PC)

HRM TO PC SERIAL PORT CABLE

J1   J2

DIGIO PORT LOOP-BACK JUMPER   **DIGIO LED JUMPER**

330

J3   CONN DSUB 37-P   J4   CONN DSUB 37-P

MADC JUMPER

J6

J5

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CONN DSUB 9-P

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CONN DSUB 37-P